Claims:

1.   In a communications system for transporting data
traffic from a source end point to a destination end point
over a path which includes a transmission link having a
physical layer transport rate which is subject to variations
as a function of time, a method of managing transmission of
the data traffic through the system, the method comprising:
monitoring the physical layer transport rate of said link;
sending to said source end point a management cell including
rate information based on the monitored physical layer
transport rate; and
adjusting, by said source end point, said transmission rate
responsive to the rate information in said management cell.

2.   A method as defined in claim 1 wherein said management
cell is generated in response to a change in said physical
layer transport rate.

3.   A method as defined in claim 2 wherein said management
cell is generated when said change in said physical layer
transport rate exceeds a threshold value. ·

4.   A method as defined in claim 3 wherein said management cell is generated in response to a decrease in physical layer transport rate in excess of a first threshold value.

5.   A method as defined in claim 3 wherein said management cell is generated in response to an increase in physical layer transport rate in excess of a second threshold value.

6.   A method as defined in claim 1 wherein said traffic is shaped to available bit rate (ABR) category of service traffic including resource management (RM) cells and said rate information is inserted into said resource management cell.

7.   In a communications system for transporting data traffic from a source end point to a destination end point over a path which includes a transmission link having a physical layer transport rate which is subject to variations as a function of time, a system for managing transmission of the data traffic through the system, the system comprising:
monitoring means associated with the physical layer to monitor the transport rate of said link;
sending means to send to said source end point a management cell including rate information based on the monitored physical layer transport rate; and

adjusting means, at said source end point, to adjust said transmission rate responsive to the rate information in said management cell.

8. A system as defined in claim 7 including means to generate said management cell in response to a change in the transport rate of said physical layer transmission link.

9. A system as defined in claim 8 including means to compare said change in transport rate with a threshold value and to generate said management cell only when said change exceeds said threshold value.

10. A system as defined in claim 9 having shaping means to shape said data traffic to available bit rate (ABR) category of service having resource management (RM) cells periodically carrying explicit rate information in a feed back loop to said source end point, said system including means to insert said rate information into said RM cells.

11. In a communications system for transporting data traffic from an a source end point to a destination end point over a path which includes a transmission link having a physical layer transport rate which is subject to variations as a function of time, a method of managing

transmission of the data traffic through the system, the

method comprising:

continually monitoring the physical layer transport rate of

said transmission link;

generating a management cell in response to a change in said

monitored physical layer transport rate which exceeds a

threshold value, said management cell including rate

information based on said monitored transport rate; sending

to said source end point said management cell; and

adjusting the source end point transmission rate in response

to the rate information in the management cell.

12. A method as defined in claim 11 wherein said data

traffic is shaped to available bit rate (ABR) category of

service having resource management (RM) cells for

periodically carrying explicit rate information to said

source end point in a feed back loop said rate information

being inserted into said RM cell.

13. In a communications system for transporting data

traffic from an a source end point to a destination end

point over a path which includes a transmission link having

a physical layer transport rate which is subject to

variations as a function of time, a system for managing

transmission of the data traffic through the system, the

system comprising:

monitoring means for monitoring the physical layer transport

rate of said link;

generating means to generate a management cell in response

to a change in said monitored physical layer transport rate

which exceeds a threshold value, said management cell

including information based on said monitored transport

rate;

means to send said management cell to said source end point;

and

adjusting means at said source end point to adjust said

transmission rate in response to the rate information in the

management cell.

14.   In a communications system for transporting data

traffic from a source end point to a destination end point

over a path which includes a transmission link having a

physical layer transport rate which is subject to variations

as a function of time, a method of managing the transmission

of data traffic through the system, the method comprising:

shaping a data connection from the source to the available

bit rate (ABR) category of service, the ABR connection

including integrated resource management (RM) cells for

carrying congestion information back to said source over a

feedback path; monitoring the physical layer transport rate
of said physical layer transmission link and recording a
value derived from said monitored rate in said RM cell;
returning said RM cell including the recorded value to said
source end point; and

adjusting by the end point source the transmission rate in
response to the recorded value in the RM cell.

15. A method as defined in claim 14 wherein said
transmission link is a digital subscriber loop (xDSL).

16. A method as defined in claim 15 wherein said digital
subscriber loop is an asymmetric digital subscriber loop
(ADSL)

17. A method as defined in claim 16 wherein data between
said source and said destination is bi-directional.

18. A method as defined in claim 17 wherein data between
said destination and said source for at least part of said
ATM path is shaped to comply with ATM unspecified bit rate
(UBR) category of service.

19. A method as defined in claim 14 wherein said
transmission link is a wireless path.

20. A method as defined in claim 14 wherein said transmission link is a path for inverted multiplexing over ATM (IMA).

21. A system for managing data traffic from a source end point to a destination end point over an ATM path, the ATM path including a transmission link having a variable physical layer transport rate, said system comprising:

shaping means to shape said data traffic connection to comply with ATM available bit rate (ABR) category of service, said ABR connection including an integrated resource management (RM) cell for returning explicit rate (ER) congestion information to said source over a feedback path;

monitoring means associated with said transmission link to monitor transport rate capability of said transmission link;

recording means to record a rate value derived from said monitored transport rate capability in said RM cell; and

control means in said source to adjust the transmission rate of said data traffic in accordance with said transport rate information.